

On a small Collection of HETEROCEROUS LEPIDOPTERA, from New Zealand; by ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

The series of Moths recorded in the present Paper, has been sent to me for identification, by Professor Hutton, of the Otago Museum, Dunedin; it is a singularly interesting little consignment, not only from the comparatively large number of novelties which it contains, but also from the assistance which it has rendered in correcting the synonymy of the known species, and the light which it has shed upon the sexual differences of the species of the genus *Pseudocoremia*.

ARCTIIDÆ.

1. *Phaos Huttonii*, n. sp. (No. 1).

Nearly allied to *P. interfixa* of Tasmania; primaries pale ochraceous, with the borders and veins rather broadly black, a submarginal transverse black line or stripe, or these wings might perhaps better be described as black, with an abbreviated basal dash, a cuneiform discoidal dash, an interno-median longitudinal streak, five subconfluent longitudinal discal dashes, and a submarginal series of small conical spots pale ochraceous; a basal subcostal carmine streak; secondaries bright ochreous, greyish on interno-median area: an oblique black spot on the discocellulars; outer border, to beyond the first median branch, broadly black, uniting with a large subanal marginal black spot, and intersected by an interrupted macular ochreous line close to the margin; fringe ochreous; body black, with sordid whitish fringes to the tegulæ; abdomen with ochraceous borders; wings below ochreous with black discocellular spots; outer borders black, intersected by a series of ochreous dots; costal borders dark orange, the primaries with an ill-defined subcostal carmine streak; body black, pectus fringed with pale sericeous hair; tibiae and tarsi of legs ochreous; anterior femora carmine in front; venter bordered and banded with ochreous. Expanse of wings 1 inch 3 lines.

Queenstown (two examples).

The Tasmanian species is larger, with more elongated primaries, the latter best described as creamy-white clouded at the end of the cell with ochreous; the veins, borders and *three* transverse lines black; a basi-costal scarlet streak; the secondaries are dark ochreous, with a broad external black border interrupted by two marginal ochreous dots; the interno-median area blackish; the body with whitish margins to collar and tegulæ, the abdomen *scarlet* at the sides, indications of the same colour appearing also on the margins of the segments; a lateral series of black and whitish spots; there are, therefore, plenty of well-defined characters whereby to distinguish the New Zealand form.

HEPIALIDÆ.

2. *Porina fuliginea*, n. sp. (No. 79).

Allied to *P. cervinata*; smoky brown; primaries with slightly greyish outer border, limited by an interrupted blackish line; a marginal series of small whitish-edged black spots between the veins; an interrupted greyish-edged blackish discal line, also two or three transverse black spots nearer to the end of the cell, and crossing the subcostal interspaces; discoidal cell and base varied with unequal black-edged white spots; secondaries with the basal area broadly clothed with paler hair; abdomen with pale hair at the base; under surface immaculate. Expanse of wings 1 inch 5 lines.

Otago.

LEUCANIIDÆ.

3. *Leucania atristriga* (No. 5).

Xylina atristriga, Walker, Lep. Het. Supp. iii, p. 756 (1865).

Bityla atristriga, Butler, Proc. Zool. Soc. 1877, p. 387, n. 37.

Otago.

This species is evidently allied to *L. propria* and *L. dislocata*; I was therefore in error when I referred it to *Bityla*.

XYLOPHASIIDÆ.

4. *Xylophasia stipata*.

Xylina stipata, Walker, Lep. Het. Suppl. iii, p. 753, (1865).

Otago.

5. *Xylophasia rubescens*, n. sp. (No. 18).

Allied to *X. lithoxylea* and *X. lignicolora*. Primaries sandy pale brown, with the ordinary markings (including the cuneiform external patch, and a diffused patch at external angle) ferruginous; reniform spot enclosing a blackish J-shaped marking, and bounded externally by two black dots; orbicular represented by a black dot, below which is an oblique ferruginous dash; a discal arched series of minute black dots on the veins; secondaries smoky-brown, with rosy-cupreous reflections, fringe and margin sandy-brown; body pale sandy-brown; thorax somewhat ferruginous down the centre; abdomen whitish at the base, with four brown-banded dorsal tufts; under surface uniform pale shining sandy-brown, with faint rosy reflections; discocellulars blackish. Expanse of wings 1 inch 7 lines.

Otago.

Most like the North American *X. lignicolora*, but the primaries decidedly paler, and the secondaries darker.

NOCTUIDÆ.

6. *Agrotis? moderata* (No. 15).

Agrotis? moderata, Walker, Lep. Het. Suppl. ii, p. 705 (1865).

Manestra griseipennis, Felder, Reise der Nov. Lep. iv, pl. cix, fig. 22.

Wairarapa.

This species would perhaps be better placed in the genus *Hapalia*.

7. *Agrotis mitis*, var.? (No. 13).

Agrotis mitis, Butler, Proc. Zool. Soc. 1877, p. 383, n. 19, pl. xlii, fig. 5.

Otago.

More heavily marked and of a much less bluish tint than the type, still I believe it to be conspecific with it.

8. *Chera virescens*, n. sp. (No. 7).

Primaries above greyish-green, with black costal spots indicating the origin of the usual lines; all the lines and spots black

or blackish, margined either outwardly or inwardly with pale ochraceous; the discoidal spots and a spot below the orbicular indicated in outline; an oblique zigzag line from the reniform to the inner margin, followed by a subangulated series of lunate markings from costa to inner margin, an extradiscal series of ill-formed hastate subconfluent black spots parallel to the outer margin; fringe blackish towards the apex; secondaries sericeous grey with a feeble lilacine tint; a broad deep brownish grey external border; fringe yellowish at base, tipped with white and intersected by a grey line; thorax greyish-green, abdomen sordid whitish, sericeous; anus yellowish; under surface of wings silvery-greyish, the primaries with the costal and external borders finely white-speckled but not distinctly; an ochraceous tuft close to the base covering a bare and swollen space at the base of the costal vein; a slightly arched grey discal line; internal area white at base; secondaries paler than primaries, the fringe yellowish at base; an arched grey discal line; discocellulars greyish; body below sordid white. Expanse of wings 1 inch 10 lines.

Otago.

This species is evidently nearly allied to the smaller and greyer species which I have hitherto considered to be Guénée's *Xylocampa* ? *cucullina*.

9. *Chersotis sericea*, n. sp. (No. 16).

♂ Shining grey; primaries tinted with brown, with indications of the discoidal spots, and of a third spot near the base of interno-median area, they being slightly paler than the ground-colour, and outlined in black; fringe tipped with white; secondaries with white fringe; abdomen pale stramineous, clothed at the base with pale grey hair; under surface pale silvery-grey. Expanse of wings 1 inch 4 lines.

Wairarapa.

Excepting in the structure of its antennæ this species has more nearly the aspect of a *Spælotis* than of a *Chersotis*.

10. *Graphiphora purpurea*, n. sp. (No. 6).

Primaries above rich chocolate-brown shot with purple; the central area limited by two undulated squamose lines of white and fulvous scales, a third similar but less distinct line across the base; a semicircular blackish spot edged with whitish near the

end of the cell, its outer edge, together with a portion of the outer undulated line, indicating the reniform spot, its inner edge united at the extremity to an oblique black-edged whitish dash which replaces the orbicular spot; an indistinct series of black marginal dots; secondaries chocolate-brown becoming pale brown towards the base; fringe pale brown intersected by a darker line; head, collar, and centre of thorax rich chocolate-brown edged with fulvous scales; first joint of palpi tipped with fulvous; tegulae dark brown with a sericeous slaty-grey lustre; abdomen chocolate-brown with pale basal tufts; under surface pale sericeous red-brown with darker margins and fringe; primaries with whitish interno-basal area; secondaries with a lunule at the end of the cell and a bisinuated discal series of spots black; body below darker than the wings, chocolate-brown. Expanse of wings 1 inch 7 lines.

Otago.

More nearly allied to *G. tartarea* than to any other described species; the figure of *G. tartarea* is badly coloured, the black spots being wholly omitted.

HADENIDÆ.

11. *Hadena plena* (No. 9).

Erana plena, Walker, Lep. Het. Suppl. iii, p. 744 (1865).

Otago, in July.

This species differs entirely from *Erana* in the structure of the primaries.

12. *Hadena debilis* (No. 11).

Hadena debilis, Butler, Proc. Zool. Soc. 1877, p. 385, n. 26, pl. xlii, fig. 6.

Otago.

13. *Hadena mutans* (No. 12).

Hadena mutans, Walker, Lep. Het. xi, p. 602 (1857).

Xylina spurcata, Walker, Lep. Het. xi, p. 634 (1857).

Mamestra angusta, Felder, Reise der Nov. Lep. iv, pl. cix, fig. 19.

Wairarapa.

It is possible, though scarcely probable, that *H. mutans*, *insignis*, *debilis*, *lignifusca*, and *vexata* may be all modifications of one extremely variable species.

14. *Hadena insignis* (No. 14).

Euplexia insignis (part) Walker, Lep. Het. Suppl. iii, p. 724 (1865).

Mamestra acceptrix, Felder, Reise der Nov. Lep. iv, pl. cix, fig. 19.

Otago.

15. *Erana graminosa* (No. 97).

Erana graminosa, Walker, Lep. Het. xi, p. 605 (1857).

Erana vigens, Walker, Lep. Het. Suppl. iii, p. 743 (1865).

Otago.

Walker says that his *E. vigens* is "nearly allied to *E. graminosa* but the abdomen is not crested," it would have been more strictly correct to say "but the dorsal tufts have been rubbed off."

XYLINIDÆ.

16. *Xylina ustistriga* (Nos. 10 & 80).

Xylina ustistriga, Walker, Lep. Het. xi, p. 630, (1857).

Otago.

This species varies considerably in tint and in the distinctness of the markings on the under surface; we however possess all gradations between the extreme forms.

HERMINIIDÆ.

17. *Rhapsa scotinalis* (Nos. 19 & 81).

Rhapsa scotinalis, Walker, Lep. Het. Suppl. iv, p. 1150 (1865).

Herminia lilacina, Butler, Proc. Zool. Soc. 1877, p. 388, n. 43; pl. xlii, fig. 11.

Otago.

This species varies a little in size and tint, some examples being very pale and without the lilacine reflection typical of the variety named by me.

BOTIDIDÆ.

18. *Adena hybreasalis* (No. 99).

Scopula? hybreasalis, Walker, Lep. Het. xviii, p. 797, n. 51 (1859).

Adena xanthialis, Walker, Lep. Het. xxvii, p. 198, n. 1 (1863).

Otago.

Differs in colour from Walker's types, the primaries being ochraceous instead of brick-red; I have no doubt, however, that it is a mere variety.

19. *Scopula flavidalis* (Nos. 21 & 22).

Margaritia flavidalis, Doubleday, Dieff., New Zeal. 1, p. 287. n. 125.

♂, ♀, Otago.

The female example is slightly larger and darker than usual.

20. *Scopula notata*. n. sp. (No. 20).

Primaries reddish clay-colour, slightly sericeous; discoidal area dusky; a black-edged white rhomboidal spot at the end of the cell; a grey discal line, arched beyond the cell, zigzag from first median branch to inner margin; fringe grey; secondaries pale creamy ochreous, speckled at apex and on interno-basal area with grey scales; two black spots placed obliquely at the end of the cell; a marginal series of black dots; thorax red-brown; abdomen greyish, white at base; primaries below blackish as far as the discal line; costa and external area sordid sandy-brown, tinted with a feeble rosy gloss; white spot as above; fringe grey; a marginal row of black dots; secondaries silvery-white, slightly yellowish; black discocellular spots and marginal dots as above; a discal irregular series of grey spots; body below whitish, legs reddish. Expanse of wings 11 lines.

Otago.

21. *Scoparia conifera*, n. sp. (No. 92).

Primaries clay-coloured, speckled all over with snow-white scales, and with a few black scales towards the inner margin; a blackish-brown band across the base; a zigzag (almost M-shaped) fascia, dark brown edged with white, from near the base to beyond the end of the discoidal cell, its superior angles extending to the costal margin; a broad external brown border edged internally by a pale angular line; a marginal series of blackish dots; secondaries sericeous brassy-brown, very pale with diffused dusky apical border; fringe silvery-white; body silvery-whitish, the thorax longitudinally streaked with brown;

under surface pale sericeous brassy-brown, with dusky discocellulars; fringe white; body below white. Expanse of wings 10 lines.

Otago.

The pale-edged triangular area in the centre of the M-shaped marking is the first thing which catches the eye when examining this species.

ENNOMMIDÆ.

22. *Gargaphia haastiana*, (Nos. 98 & 82).

Zanclopteryx? *haastiana*, Felder, Reise der Nov. Lep. iv, pl. cxxiii, fig. 32.

Otago.

In one example the wings are uniform rust-red without the broad dark belt, this is doubtless nothing but variation.

G. muriferata (= *Panagra ephyraria*) is probably the species figured by Felder, under the name of *Zanclopteryx?* *cookiana*. The genus *Gargaphia* seems most nearly allied to *Drepanodes*.

23. *Sestra flexata* (No. 71).

Cidaria flexata, Walker, Lep. Het. xxv, p. 1421, n. 93 (1862).

Sestra fusiplagiata, Walker, l. c. p. 1751.

Wairarapa.

24. *Sestra humeraria* (Nos. 23 & 106).

Macaria? *humeraria*, Walker, Lep. Het. xxiii, p. 940 (1861).

Lozogramma obtusaria, Walker, l. c. p. 985.

Cidaria? *obtruncata*, Walker, Lep. Het. xxv, p. 1421 (1862).

Wairarapa.

I have now no hesitation in uniting the above synonymes, but at present I have not sufficient evidence to prove *S. flexata* conclusively to be conspecific.

25. *Hyperythra panagrata*.

Scotosia panagrata, Walker, Lep. Het. xxv, p. 1360, n. 36 (1862).

♀ Otago.

The female example sent approaches most nearly to the typical form of the species, it is, however, paler and has a greyish lilacine tint, thus forming a more extreme contrast to the orange-spotted form; the *Angerona menanaria* of Walker (which certainly belongs to *Hyperythra*) may be a still more modified variety of the latter type.

26. *Hyperythra desiccata* n. sp. (Nos. 29 & 31).

♂ Allied to the preceding species, the lines crossing the wings of the same form; primaries sandy-ochraceous, with the base, costa and external border laky-brown irrorated with grey; two widely-separated parallel transverse lines inarched towards the costa, a discocellular spot and the inner margin of the external border indistinctly grey; the outer or discal transverse line dotted with black upon the veins; a marginal series of blackish dots; secondaries paler than the primaries, sandy-yellowish irrorated with grey, and crossed by two parallel undulated dotted discal grey lines; a marginal series of blackish dots; thorax laky-brown; abdomen sandy-yellowish; under surface much paler, the whole surface irrorated with grey, the transverse lines indistinct; discocellular blackish spots on all the wings; a marginal series of black dots. Expanse of wings 1 inch 7 lines.

♀ Duller and greyer than the male; otherwise similar, excepting that the external area below is limited by a dusky streak, and the primaries exhibit a whitish apical patch. Expanse of wings 1 inch 8 lines.

Otago.

27. *Hyperythra arenacea*, n. sp. (No. 28).

♀ Primaries above sandy-ochraceous speckled with black, and with feebly indicated rusty lines as in the preceding species; an additional line or stripe (usually present in *H. panagrata*) immediately beyond the cell; a blackish discocellular spot; secondaries much paler, whitish on basi-costal area; irrorated with black points; a discal series of black dots; a grey spot at the end of the cell, from which indications of a grey line extend to the abdominal margin; body pale sandy-yellowish; under surface considerably paler, irrorated with black and grey atoms; all the wings with well-defined black discocellular spots; a feebly indicated grey discal streak, and a diffused rusty-brownish submarginal stripe; primaries with a clearly defined pale yellow apical patch. Expanse of wings 2 inches.

Otago.

28. *Lyrcea alectoraria* (No. 24).

Lyrcea alectoraria, Walker, Lep. Het. xx, p. 259 (1860).
Otago.

29. *Lyrcea varians*, n. sp. (Nos. 25 & 26).

Olive-brown speckled with black, with more or less defined cupreous reflections; primaries crossed by two widely divergent dusky stripes, and a number of short dusky striations; two white dots on the lower discoidal interspace; interno-median area, and an abbreviated fascia, bounding the outer dusky stripe towards apex, golden-yellow mottled with laky-purplish; a black discocellular dot; secondaries varied here and there with fiery cupreous; two parallel grey discal lines; body testaceous; under surface altogether greyer, the transverse lines obsolete; black discocellular dots; primaries with yellow apical fascia nearly as above, and white dots on lower discoidal interspace; body below sandy ochraceous. Expanse of wings 1 inch 7 lines.

Wairarapa.

A dull variety occurs, in which the purplish-mottled yellow areas are wanting. This species is allied to "*Amilapis?*" *achroiaria*, of Felder, but the genus *Lyrcea* has nothing in common with *Amilapis*, being much more nearly related to *Azelina*.

30. *Polygonia fortinata* (No. not indicated).

Polygonia fortinata, Guénée, Ent. Month. Mag. v, p. 41 (1868).

Otago.

BOARMIIDÆ.

31. *Boarmia dejectaria* (No. 27).

Boarmia dejectaria, Walker, Lep. Het. xxi, p. 394 (1860).
Otago.

PSEUDOCOREMIA, *Butlér*.32. *Pseudocoremia lupinata* (Nos. 65 & 66).

♂ *Cidaria lupinata*, Felder, Reise der Nov. Lep. v, pl. cxxxi, fig. 19.

♀ Primaries white, greyish towards apex; costa grey; outer border broadly grey bounded internally by a blackish-edged zig-zag white line; the inner edge widening into three blackish spots

corresponding in position with the prominent markings of the male; a sinuous grey central belt, wide upon the costa, where it is bounded on both sides with black, tapering towards the external angle, spotted internally with dark red-brown hastate spots, limited externally by a whitish and a blackish line; a sub-basal interrupted line formed of black spots; a black G-shaped marking and a black dot at base; a longitudinal red-brown streak through the interno-median area; secondaries creamy yellowish becoming brownish at outer border, which is limited internally by a dusky line; body white with black tegulae; under surface greyish, the markings ill-defined. Expanse of wings 1 inch 6 lines.

Otago.

33. *Pseudocoremia suavis*, n. sp.

♂ Primaries grey, base brownish; two subangulated parallel subbasal black-speckled brown lines; a nearly central sinuous blackish line; two black-speckled parallel sigmoidal discal lines just beyond the cell; discocellulars blackish; external border limited internally by a dentate sinuate white line margined with brown and black on both sides; a marginal series of black dots; secondaries pale sericeous straw-colour, the external border irrorated with brown; thorax brown; abdomen testaceous; under surface stramineous, the primaries clouded with grey and with grey indications of the lines of the upper surface; a marginal series of black dots; secondaries as above; tibiae and tarsi banded with black. Expanse of wings 1 inch 8 lines.

♀ Altogether paler than the male, the ground-colour of the primaries white. Expanse of wings 1 inch 8 lines.

Canterbury.

Somewhat allied to *Selidosema pungata* of Felder, but altogether paler and less prominently marked, the lines across primaries more sinuous and less parallel.

34. *Pseudocoremia productata* (No. 85).

♀ *Larentia productata*, Walker, Lep. Het. xxiv, p. 1197, n. 69 (1862).

♂ Much like *P. indistincta*, but the ground-colour uniformly creamy whitish, the markings of the primaries much more defined, the external border being bounded internally by a complete series of blackish spots. Expanse of wings 1 inch 3 lines.

Otago.

35. *Pseudocoremia indistincta* (No. 60).

♂ *Pseudocoremia indistincta*, Butler, Proc. Zool. Soc. 1877, p. 394, n. 78; pl. xliii, fig. 8.

Otago.

I have little doubt but that the *Larentia productata* of my last List (P. Z. S. 1877, p. 394) is the ♀ of this species, it differs from Walker's type much in the same way as the two males from each other.

ZYLOBARA, n. gen.

Allied to *Pseudocoremia* and *Bylazora*, but differing from both in the outline of the secondaries, the margin being distinctly subangulated, owing to the prominence of the area enclosed by the second and third median branches; abdomen much elongated; head large; antennæ similar to those of *Tephrosia* and allies. Type *Z. fenerata*.

36. *Zylobara fenerata*.

Rhyparia fenerata, Felder, Reise der Nov. Lep. v, pl. cxxxi, 7. Wairarapa.

Felder's figure fails to show the projecting character of the secondaries, it was probably taken from an injured specimen.

ACIDALIIDÆ.

37. *Asthenia ondinata* (No. 32).

Asthenia ondinata, Guénée, Phal. i, p. 438, n. 724; pl. 19, fig. 4.

Otago.

38. *Asthenia subpurpureata* (No. 33).

Asthenia subpurpureata, Walker, Lep. Het. xxvi, p. 1588 (1862).

Otago.

39. *Acidalia schistaria* (No. 35).

Acidalia schistaria, Walker, Lep. Het. xxiv, p. 782 (1861).

Otago.

40. *Acidalia rubraria* (No. 36).

Acidalia? rubraria, Doubleday, Dieff., N. Zeal. App. p. 286 (1843).

Otago.

41. *Acidalia undosata* (No. 51).

Cidaria undosata, Felder, Reise der Nov. Lep. v, pl. cxxviii, fig. 2.

Otago.

FIDONIIDÆ.

42. *Samana falcatella* (No. 34).

Samana falcatella, Walker, Lep. Het. xxvii, p. 197, n. 1, (1863).

Otago.

- The genus *Samana* is very closely allied to *Panagra*, but has the aspect of *Sterrhæ*; M. Guénée's *Panagra scissaria* may be referred to it.

43. *Selidosema agrotæ*, n. sp. (Nos. 39 & 54).

Whity-brown, wings with a marginal series of small blackish spots in pairs; fringe white, spotted with blackish and intersected by a dark grey line; basal two-thirds of the primaries crossed by about seven parallel dusky lines commencing upon the costal margin in black dots; discocellulars black; under surface of primaries greyish-brown with pale grey borders, the costal border crossed by four or five white-edged blackish dashes; marginal spots as above; secondaries white, crossed by about eight strongly arched parallel brown lines which become very indistinct upon the costal area; disc from the radial to the abdominal margin clouded with brown; marginal spots as above; body white. Expanse of wings 1 inch 2 lines.

Wairarapa.

44. *Fidonia catocalaria* (No. 37).

Larentia catocalaria, Guénée, Ent. Month. Mag. v, p. 26 (1868).

Otago.

LIGIIDÆ.

45. *Declana floccosa* (No. 3).

Declana floccosa, Walker, Lep. Het. xv, p. 1649 (1858).

Wairarapa.

46. *Declana nigrosparsa*, n. sp. (No. 2).

Wings snow-white, the primaries slightly greyish upon the borders, a black-mottled subquadrate grey patch on the basal half from the median vein to the inner margin; an indication of a belt just beyond the middle, represented by a diffused bisinuated grey streak, and a series of ferruginous discal spots parallel to it; a black marginal line; fringe traversed by a grey line; secondaries crossed from the origin of subcostal branches to the abdominal margin by two subconfluent conical grey spots, a darker lunule on upper discocellular; a grey marginal line; body greyish, mottled with black and white, tegulae testaceous in the middle; abdomen with a longitudinal dorsal series of small clay-coloured projecting spots; tibiae and tarsi white, banded with black; antennae white with clay-coloured internal surface; under surface snow-white; wings with slender brown marginal line; the primaries with transverse conical grey spots as in the secondaries; a bisinuated grey discal line; body greyish. Expanse of wings 1 inch 6 lines.

Otago.

Nearest to *D. floccosa*, but with all the markings considerably less pronounced and with white secondaries.

47. *Declana scabra* (No. 4).

Argua scabra, Walker, Lep. Het. xxviii, p. 448, n. 1 (1863).
Wairarapa.

48. *Declana niveata*, n. sp. (No. 8).

Snow white, the primaries covered all over with embossed mottling; costal and outer borders faintly speckled with grey, an irregularly undulated band of which, limited internally by a blackish line, runs across the disc; external border limited internally by a very irregular interrupted line; traces of a blackish oblique line across the basal third of the wing; costal margin dotted with black; secondaries immaculate; body with slightly greyish tegulae; antennae clay-coloured internally; sides of palpi and a tuft on each side of the pectus behind the eyes, blackish; under surface of wings and body snow-white, immaculate. Expanse of wings 1 inch $3\frac{1}{2}$ lines.

Otago.

Readily separable from all the other species by the much more closely approximated lines which cross the primaries and the immaculate white secondaries.

49. *Pachygnemia usitata*, n. sp. (No. 67).

Very similar to *P. hippocastanaria*, of Europe, the same colours; primaries grey with a slight lilacine gloss; crossed by one or two ill-defined dusky subbasal lines; two slightly divergent and nearly central lines, the outer one sigmoidal; a pale zigzag line edged on both sides with blackish, limiting the external border which is dusky; discocellulars dusky; secondaries sericeous whity-brown irrorated with grey on external border; body grey; under surface sericeous grey. Expanse of wings 1 inch 3 lines.

Otago.

LARENTIIDÆ.

50. *Larentia*? *punctilineata* (No. 40).

Larentia punctilineata, Walker, Lep. Het. xxiv, p. 1202, n. 79 (1862).

Otago.

51. *Larentia*? *falcata*, n. sp. (No. 87).

Allied to *L. punctilineata* (which it much resembles in colour and markings), but larger and with distinctly falcate primaries; primaries reddish-brown, with the base and a broad central belt dark brown traversed by blackish lines and margined by white dots; a black discocellular dot; external border blackish, diffused; two or three whitish subapical dots; secondaries silvery-grey with a darker waved central belt formed of parallel dark grey lines, dotted with black upon the abdominal margin, white bordered; a submarginal series of white-bordered grey spots; a marginal series of blackish dots in pairs; fringe pale reddish-brown; abdomen with dorsal pairs of black dashes on each segment; primaries below grey with darker white-bordered central belt; costa cream-coloured between the markings; a zigzag white-bordered subapical dusky stria; secondaries whitish with a broad irregular central belt formed by two blackish limiting lines and two grey intermediate lines; the outer black line distinctly undulated; a very ill-defined blackish speckled submarginal band; body below testaceous. Expanse of wings 1 inch 3 lines.

Otago.

This and the other forms with falcate primaries referred to *Larentia*, *Coremia*, *Camptogramma* and *Cularia* will probably

prove, upon careful examination, to be congeneric, and referable to a distinct and hitherto uncharacterized genus; at present I cannot spare time to look into the matter critically, but I am satisfied that there is some confusion in the above-mentioned genera.

52. *Larentia? rufescens*, n. sp. (Nos. 52, 56 & 101).

Intermediate between the preceding species and *L. megaspilata*: primaries pale lakey-brown, crossed by numerous undulated brownish lines, with indications of a broad central belt, cuneiform blackish subapical patch and black discocellular dot, all as in *L. megaspilata*; secondaries pale sericeous testaceous, crossed in the middle by four parallel sinuous undulated grey lines in pairs; three similarly undulated grey lines upon the external area and the commencement of a fourth between these and the central ones; external border pale lakey-brown, with a marginal series of black dots in pairs: fringe traversed by a grey line; a black discocellular dot; head and thorax pale lakey-brown speckled with blackish, abdomen pale testaceous banded with blackish; primaries below grey, costa pale ochraceous, a whitey-brown discal band immediately following the limiting lines of the central band, otherwise nearly as above, but the central lines rather darker; secondaries altogether darker than above, the ground-colour sandy, the central lines blackish, the lines on external border ill-defined; body below pale lakey-brown. Expanse of wings 1 inch 1 line.

Otago (four examples).

53. *Larentia? megaspilata* (No. 38).

Larentia megaspilata, Walker, Lep. Het. xxiv, p. 1198 (1862).

Cidaria assata, Felder, Reise der Nov. Lep. v, pl. cxxxi, fig. 4.

Otago.

In my former paper I followed Dr. Felder, in referring this species to *Cidaria*, because of its apparent affinity to the *C. congregata* group; it agrees with this latter in neurulation and coloration, but differs in its longer palpi, so that until *Larentia* is broken up into several genera it will have to be retained, with its allies, in that genus.

54. *Larentia? nehata* (No. 49).

Cidaria nehata, Felder, Reise der Nov. Lep. v, pl. cxxxi, fig. 6.
Otago.

Allied to the preceding species, but smaller; the primaries much darker and more uniform in colouring, the secondaries ochraceous.

55. *Larentia? invexata* (No. 58).

Larentia invexata, Walker, Lep. Het. xxiv, p. 1199, n. 73 (1862).

Larentia inoperata, Walker, l.c., p. 1201, n. 77 (1862).
Otago.

The smallest species of this group.

56. *Larentia? heliacaria* (No. 88).

Coremia heliacaria, Guénée, Phal. ii, p. 420, n. 1583 (1857).
Otago.

This species seems to be far more nearly allied to the six preceding forms than to any section of the genus *Coremia*; it is new to the New Zealand fauna, being hitherto known only from Australia and Tasmania; the example now sent differs slightly from the typical form in the width and angulation of the belt on the primaries, but as this belt is not identical in any two specimens of the species, it is probable that this is nothing more than variation.

57. *Helastia indicataria* (No. 41).

Eupithecia indicataria, Walker, Lep. Het. xxvi, p. 1708 (1862).
Otago.

58. *Helastia charybdis*, n. sp. (No. 44).

Allied to the preceding; primaries above smoky-grey, crossed by about eight zigzag blackish lines in pairs, forming indications of four bands which are most strongly defined upon the costa; a whitish-edged black lunule between the last two bands; the last band partially filled in with sandy-whitish and brown; fringe whitish flesh-coloured intersected by a grey line and

interrupted at the terminations of the veins by blackish spots; secondaries pale smoky-grey, the veins black spotted with whitish; extreme outer margin black; fringe as in the primaries; body brownish-grey, head yellowish; antennæ smoky-grey, strongly pectinated; under surface sericeous grey; markings of upper surface ill-defined; discocellulars black; primaries with pale reddish cupreous costal area; secondaries with a series of short black dashes beyond the cell; fringe paler than the rest of the wings, spotted with dark grey. Expanse of wings $10\frac{1}{2}$ lines.

Otago.

59. *Helastia calida*, n. sp. (No. 43).

Primaries above pale reddish-brown; base chocolate-brown, crossed and margined by blackish lines; a subangulated undulated black-edged chocolate-brown band across the basal two-fifths; indications of a whitish-edged black discal line represented above the third median branch by a strongly defined lunule and a blackish costal spot; an undulated chocolate-brown submarginal band edged externally with a white line which is zigzag from the second median branch to the costal margin; a black marginal line slightly interrupted at the extremity of the veins; fringe whitish, intersected by a grey line and heavily spotted with blackish; secondaries grey, veins banded with black, margin and fringe as in primaries; body reddish-brown, abdomen with pale dorsal tufts; head ochreous; undersurface sericeous grey; discocellulars black; primaries with a faint reddish tint on costal area; the bands of the upper surface indicated upon costal half by darker grey with whitish interspaces; secondaries paler than primaries, almost white; an angulated series of black dots beyond the cell, also three dusky costal dots between the latter and the base. Expanse of wings $11\frac{1}{2}$ lines.

Otago.

In this species the primaries are more elongated in appearance than in the two preceding forms; in this respect it approaches *H. inexpectata*.

60. *Tatosoma transitaria* (No. 68).

Cidaria transitaria, Walker, Lep. Het. xxv, p. 1419, n. 90 (1862).

Wairarapa.

The genus *Tatosoma* should be placed near to *Lobophora*; it was confounded with *Sauris* by Dr. Felder, but may be readily distinguished from that genus by the position of the lobate excrescence from the male secondaries.

61. *Melanthia arida*, n. sp. (No. 57).

Primaries whity-brown, crossed by gravel-reddish irregularly zigzag parallel lines; basal, apical and external angles broadly black-brown, bordered and varied with red-brown; discocellular dot and several abbreviated costal lines indicating the commencement of the zigzag reddish lines black; secondaries sordid sericeous white, with the outer border and two or three very indistinct lines across the abdominal area greyish; head and thorax blackish, abdomen whity-brown, transversely barred with black, basal segment above black with two pale spots; under surface pale sericeous pinky-brown, the markings of the upper surface very feebly represented. Expanse of wings 1 inch 1 line.

Otago.

This species is referable to the *M. albicillata* group of the genus.

62. *Coremia rosearia* (No. 47).

Cidaria rosearia, Doubleday, Dieff. N. Zeal. App. p. 285 (1843).

Otago.

Under this species Walker placed examples of *C. cymaria*, *relictata* and *acutata*.

63. *Coremia squalida*, n. sp. (No. 48).

Silvery greyish-brown; primaries above with the usual irregular central belt very broad, its central area dark grey, its borders broadly yellowish olivaceous, edged on both sides and intersected with undulated black lines; a silvery-white line on each side of the central belt; base olivaceous, traversed by blackish lines and limited externally by a white line; a subbasal yellowish belt occupying the space between the base and the central belt; disc crossed immediately beyond the central belt by two yellowish-brown lines on a white ground, and followed by a

white-edged band of the same colour; outer border yellowish olivaceous; a blackish marginal line; fringe whitish, traversed by two dark brown parallel lines; secondaries with a black undulated marginal line, fringe traversed by a slender dusky line; under surface greyish-brown; basal three-fourths of the wings limited externally by a very irregular dark brown line, followed by a white line; discocellulars dark brown; apical borders irrorated with white; fringe whitish, spotted with brown. Expanse of wings 1 inch 2 lines.

Otago.

Nearer to *C. ferrugata* than to any other species known to me; its general aspect is pale greyish or silvery-brown, with darker white-edged belt across the primaries.

64. *Phibalapteryx gobiata* (No. 85).

Cidaria (*Phibalapteryx*) *gobiata*, Felder, Reise der Nov. Lep. v, pl. cxxxi, fig. 2.

Otago.

The present example agrees closely with Felder's figure, which was by no means the case with those in the collections formed by Dr. Hector and Mr. Enys, the latter probably represent a distinct species, but the example retained for the Museum is hardly sufficiently perfect to enable me to form a very decided opinion respecting it.

65. *Phibalapteryx simulans*, n. sp. (No. 86).

Closely allied to the preceding species, but the two lines nearest to the base of primaries more arched and not duplicated; the discal angulated line more oblique and distinctly more sinuated towards the apex; secondaries with the outermost discal blackish line distinctly zigzag and nearer to the outer margin, the four lines between the latter and the base equidistant and parallel; veins upon the disc alternately black and white; marginal line black; primaries below more lakey in tint than *P. gobiata*; discocellular dots black. Expanse of wings 1 inch 4 lines.

Otago.

66. *Phibalapteryx undulifera*, n. sp. (No. 83).

Also allied to *P. gobiata*, but larger, of a more sandy tint; the primaries with a strongly defined black discocellular dot;

the interno-median area crossed by *three* convergent dark brown lines between the extrabasilar and the widely sinuated oblique discal line; disc crossed by five or six indistinct undulated parallel greyish lines; fringe reddish brown; secondaries crossed by nine or ten undulated parallel lines, the second, fourth and seventh distinct, the last mentioned black with white external edge; veins on the disc white dotted with black; a slender undulated black marginal line; fringe reddish-brown; collar and several interrupted lines across the abdomen black; primaries below distinctly darker and more lakey in tint than *P. gobiata*; secondaries whiter; all the wings with strongly defined black discocellular dot. Expanse of wings 1 inch 5 lines.

Otago.

67. *Phibalapteryx anguligera* n. sp. (No. 84).

♀ More sandy in coloration than *P. gobiata*, with a distinct oblique olivaceous brown central belt, limited by the discal blackish line, which is widely zigzag, but diverging from this line above the lower radial, whence it runs transversely but irregularly to the costal margin; a large dusky discocellular spot; veins on the disc white dotted with black as usual; secondaries with the margin rather more strongly dentated than in *P. gobiata*, the inner blackish line represented by a grey band; outer border limited by a dusky line; a slender black marginal line; primaries below with a lakey tint; the discocellular dot black; a transverse irregular discal line answering to that of the upper surface; secondaries pale sandy-whitish, the basal half crossed by five dusky lines; disc crossed by a darker sandy nebula. Expanse of wings 1 inch 4 lines.

Otago.

Phibalapteryx anguligera ♂? (No. 100). In this form, which I take to be the male of the preceding, the markings of the primaries are well-defined but do not form a belt as in the female, the under surface of these wings is dull rose-red; the secondaries are smaller and more strongly dentated than in the female, and on the under surface are marked with a discal series of black dots; this species bears considerable resemblance to the European *P. tersata* upon the upper surface, but differs in its dentated secondaries.

68. *Phibalapteryx ricularis*, n. sp. (Nos. 45 & 50).

Allied to *P. verriculata* of Felder, but smaller, more sandy

n tint, with the lines of primaries transverse, instead of oblique and undulated; secondaries with all the lines undulated, as well as the margin; discal veins of all the wings white, dotted with black; discocellular spots black, more or less developed. Expanse of wings 1 inch 3 lines.

Otago.

69. *Cidaria? inclarata* (No. 53).

Cidaria inclarata, Walker, Lep. Het. xxv, p. 1411, (1862).

Otago.

The specimen now sent shows none of the white irroration common to the primaries of this species.

70. *Cidaria? aggregata* (No. 46).

Cidaria aggregata, Walker, Lep. Het. xxv, p. 1415 (1862).

Cidaria inopiata, Felder, Reise der Nov. Lep. v, pl. cxxxii, fig. 3.

Otago.

The example now sent is a female, and agrees in all respects with Felder's figure.

71. *Cidaria beata* (No. 55).

Cidaria beata, Butler, Proc. Zool. Soc. 1877, p. 397, pl. xliii, fig. 6.

Otago.

The specimens in the present collection are larger and rather more distinctly marked than those obtained by Mr. Enys.

72. *Cidaria similata* (Nos. 61 & 91).

Cidaria similata, Walker, Lep. Het. xxv, p. 1413 (1862).

Cidaria timarata, Felder, Reise der Nov. Lep. v, pl. cxxxii, fig. 19.

Otago.

73. *Cidaria muscosata* (Nos. 69 & 89).

Eupithecia muscosata, Walker, Lep. Het. xxiv, p. 1246 (1862).

Helastia muscosata, Butler, Proc. Zool. Soc. 1877, p. 395.

Cidaria sphaeriata? Felder, Reise der Nov. Lep. v, pl. cxxxi, fig. 14.

Otago.

The ♀ is very similar to Felder's figure of *C. aquosata*.

74. *Cidaria callichlora*, n. sp. (Nos. 59, 70 & 90).

Nearly allied to the European *C. miata*, from which it differs as follows: primaries above more densely green; basal patch smaller and darker, not so angular; central belt wider, its inner edge not so sharply defined, its outer edge widely zigzag from above the second median branch; the white submarginal spots replaced by a pale greenish festooned line; the double marginal black dots replaced by $\angle$ -shaped markings; secondaries crossed by two widely separated indistinct dentate-sinuate grey discal lines; no discocellular dot; abdomen pale brown with white dorsal dots on each side of which are black dots; below there are similar differences, but here all the wings exhibit black discocellular dots. Expanse of wings 1 inch 3 lines.

Wairarapa.

In one example (No. 90) the primaries above and the whole under surface are more dusky than in the two others, giving it a very different aspect.

75. *Elvia glaucata* (No. 42).

Elvia glaucata, Walker, Lep. Het. xxv, p. 1431 (1862).
Otago.

CRAMBIDÆ.

76. *Crambus flexuosellus* (No. 73).

Crambus flexuosellus, Doubleday, Dieff., New Zeal. App. p. 289 (1843).
Otago.

77. *Crambus sabulosellus* (No. 102).

Crambus sabulosellus, Walker, Lep. Het. xxvii, p. 178, n. 139 (1863).
Otago.

78. *Chilo leucanialis* (No. 72).

Chilo leucanialis, Butler, Proc. Zool. Soc. 1877, p. 401, n. 112.
Otago.

TORTRICIDÆ.

79. *Heterognomon biguttanum* (No. 95).

Teras biguttana, Walker, Lep. Het. xxviii, p. 305, n. 76 (1863).
Otago.

80. *Heterognomon excessanum* (Nos. 74, 93 & 94).

Teras excessana, Walker, Lep. Het. xxviii, p. 303, n. 71 (1863).
Otago.

The female is larger than the male, and of a redder colour.

81. *Heterognomon cuneiferanum* (No. 75).

Teras cuneiferana, Walker, Lep. Het. Suppl. v, p. 1780 (1866).
Otago.

82. *Cacoecia herana*? (No. 96).

Tortrix herana, Felder, Reise der Nov. Lep. v, pl. cxxxvii,
fig. 52.
Otago.

83. *Pædisca luci plagana* (No. 103).

Pædisca luci plagana, Walker, Lep. Het. xxviii, p. 381, n. 83
(1863).
Otago.

Allied to "*Conchylis*" *plagiata*, of Walker.

TINEIDÆ.

84. *Tinea terranea* n. sp. (No. 105).

Aspect of the genus *Safra*, sericeous earthy brown, the primaries reticulated with greyish-brown, two spots in the cell, a semicircular subconfluent series beyond the cell and a series round the costal and outer margins black; secondaries tinted with violet; head testaceous; wings below shining sepia-brown with paler fringes; body pale testaceous. Expanse of wings 1 inch.

Otago.

Resembles the genus *Safra* in coloration.

GELECHIIDÆ.

85. *Æcophora peroneanella* (No. 77).

Gelechia peroneanella, Walker, Lep. Het. xxix, p. 658, n. 384
(1864).
Otago.

86. *Æcophora Huttonii*, n. sp. (No. 76).

Allied to *Æ. picarella*; primaries above greyish-white; a short bifurcate black line lying along the base of costal margin, a Λ -shaped black marking at base of median vein, and beyond it an oblong spot, above the latter a zigzag line running to the costal margin; an irregularly zigzag black line from the centre of costal margin to the first median branch; a ?-shaped black character on the disc, and a series of black spots round the margin of the wings, from the costa just behind the middle to the inner margin near external angle; secondaries shining-grey, with darker subconfluent marginal spots; apical half of fringe sordid white, intersected by a grey line; body white; wings below shining brown, with whitish margins and white fringes; body below white, the venter with black lateral patches; legs white externally with the tarsi black-banded, anterior pair black internally with white joints. Expanse of wings 1 inch 1 line.

Otago.

A very distinct and pretty species.

87. *Tingena bifaciella* (No. 104).

Tingena bifaciella, Walker, Lep. Het. xxix, p. 810, n. 1 (1864).

Otago.

This species greatly resembles *Æcophora parca* and *Æ. apertella*, but differs in the form of the secondaries and the dark coloration of the under surface of the wings.

88. *Cryptolechia galactina* (No. 78).

Cryptolechia galactina, Felder, Reise der Nov. Lep. v, pl. exi, fig. 34.

Otago.